Revista ARACÊ
ISSN: 2358-2472

ANALYSIS OF THE GUIDELINES THAT GUIDE THE SUSTAINABLE PROCUREMENT OF FEDERAL INSTITUTIONS OF HIGHER EDUCATION IN PARÁ

https://doi.org/10.56238/arev6n4-168

Submitted on: 11/11/2024 **Publication date:** 11/12/2024

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ABSTRACT

The bodies of the Federal Public Administration must follow sustainability criteria to meet the Sustainable Development Goals. The objective was to study the adoption of these criteria in the purchases of the Federal Institutions of Higher Education (IFES) in the state of Pará, focusing on the perception of the servers involved in the procurement processes. The research employs a comprehensive methodology, including the application of a survey to obtain data on public procurement and the use of Factor Analysis to identify the latent factors that explain the adoption of sustainable practices. The factors identified and extracted were: biosocioeconomic benefits of purchases (31.71%); knowledge of the legislation (18.46%); governance of the procurement chain (15.64%). Despite respondents' recognition of the benefits of sustainable procurement, barriers were identified. Only a small fraction of the products purchased meet sustainable criteria, and 79.17% of the employees pointed out limitations in the portfolio of products available. In addition, 80.83% considered the training offered to be insufficient, which compromises the implementation of these practices. Another 95.83% highlighted restrictions regarding the number and preparation of suppliers, and 83.33% stated that they did not perceive a satisfactory relationship between sustainable procurement and the institutional missions of the IFES. These results highlight the need for an integrated approach that includes investments in training of civil servants, encouraging the diversification of the portfolio of sustainable products by suppliers, and aligning purchases with the goals of the 2030 Agenda. Thus, IFES can not only improve the efficiency of purchases, but also act as agents of social transformation, promoting the sustainable development of the Amazon.

Keywords: Sustainable Development, Sustainable Public Procurement, Multivariate Analysis, Amazonia.

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ISSN: 2358-2472

INTRODUCTION

The perspective of the sustainable use of natural resources has awakened us to the reflection of the sustainable attribute in goods and services throughout the production and consumption process, referring to the need to determine concepts, parameters and variables of sustainable development, which extends to all sectors of society, including Higher Education Institutions. As society faces difficult *trade-offs* in relation to macro-allocation and environmental valuation, it needs to define how much of the ecosystem structure should be converted to economic products and how much should be conserved to continue generating the ecosystem services necessary to sustain life (FARLEY, 2008; SANTANA, 2020), the adoption of sustainable practices in institutional procurement are highlighted.

The incorporation of environmental, social and economic criteria in the processes of acquisition of goods and services by the Public Administration has been called Sustainable Public Procurement, which aims to ensure that goods and services are produced, supplied and disposed of in an environmentally responsible manner, minimizing environmental impacts and negative externalities and increasing energy efficiency through the use of renewable resources. together with the promotion of technological innovation in the development of local production (SDSN, 2018).

The relevance of Sustainable Public Procurement is highlighted in the Sustainable Development Goal (SDG - 12), to "ensure sustainable production and consumption patterns" (SDSN, 2018), and is composed of several goals, among which it highlights the implementation of Sustainable Public Procurement, in accordance with national policies and priorities, as a way to promote sustainable development, in view of the immense economic impact and the influence of a sustainable perspective on institutions and society (SDSN, 2018).

In this sense, SDSN (2018, p. 3) highlights the role of the Federal Institutions of Higher Education (IFES) in the 17 Sustainable Development Goals, stressing that "it is likely that none of the SDGs can be met without the involvement of this sector". Along these lines, Sachs (2015, p.61) points out that "universities around the world should be at the forefront of this issue in order to help society find the technical solutions to achieve these Goals".

The Federal Institutions of Higher Education encompass "the human and ethical formation of the student, stimulating cultural creation and the development of critical and

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reflective thinking, which he will take to his personal and professional life" (SILVA; BAHIA; ALMEIDA, 2020, p. 433). These characteristics provide an environment for the creation and dissemination of knowledge, which drives innovation, economic development, and social well-being in society, being an ideal scenario for experimentation, promotion, and mutual benefits of the SDGs (SDSN, 2018).

In the Federal Institutions of Higher Education (IFES) of Pará, the search for sustainable guidelines in procurement has become a priority, not only as a commitment to social responsibility, but also as a strategy to positively influence both the academic community and society in general.

The IFES of the state of Pará, which include the Federal University of Pará (UFPA), the Federal Rural University of the Amazon (UFRA), the Federal University of Western Pará (UFOPA), the Federal University of South and Southeast of Pará (UNIFESSPA) and the Federal Institute of Education, Science and Technology of Pará (IFPA), explicitly incorporate in their institutional missions the commitment to sustainable development. This commitment stands out in the excerpts of the missions, such as: '(...) construction of an inclusive and sustainable society' (UFPA, 2016, p.31); '(...) contribute to the sustainable development of the Amazon' (SANTANA, 2014, p.12); '(...) development in the Amazon' (UFOPA, 2019, p.19); '(...) construction of a just and democratic society' (UNIFESSPA, 2019, p.50); and '(...) collaborating with the sustainable development of the Amazon region' (IFPA, 2019, p.36).

This study aims to evaluate the perception of the employees of the IFES in Pará in relation to the sustainable guidelines in institutional procurement. Civil servants play a central role in the implementation and promotion of sustainable practices is critical, since they play a central role in purchasing decisions, resource management, and the dissemination of institutional values. Understanding their perceptions, opinions, and challenges related to the adoption of sustainable procurement guidelines are essential to direct future policies and strategies that promote sustainability within these institutions.

Exploratory Factor Analysis (EFA) is used as a methodological tool. AFE is a powerful statistical approach that enables the reduction of complex data, identification of underlying patterns, and analysis of latent constructs. By applying AFE, the underlying factors influencing civil servants' perceptions of sustainability in institutional procurement can be unraveled. In addition, AFE allows us to quantify and assess the relative importance

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ISSN: 2358-2472

of these factors, providing a deeper and more accurate understanding of the attitudes and beliefs of civil servants.

Throughout this article, we explore the vision of civil servants in relation to sustainability in procurement, identify perceived barriers and opportunities to improve sustainable practices. It also examines how awareness of environmental issues influences purchasing decisions and commitment to a more sustainable approach. This analysis, enriched by the Exploratory Factor Analysis (AFE), aims to provide valuable information that can guide the IFES of Pará in the search for a more sustainable future in their procurement operations and in the contributions to a more conscious and ecologically responsible society.

MATERIAL AND METHODS

To analyze the factors that influence the sustainable procurement policy, based on the view of the public agents of the IFES, a survey was applied to the participants of the procurement process. The survey design used was intersectional, characterized by data collection carried out at a given time, structured with closed and interval questions. The first part seeks to describe the characteristics of the interviewee such as: the bond with the institution; the class of the position; the level of education; capacity; and verify the exercise of the manager's function. The second part investigates the issues related to the concepts that permeate the concepts of sustainability, the relationship with the economic sciences, and within the scope of IFES.

The survey was composed of 17 variables, with degrees of qualification on the Likert scale, organized into four areas of influence, based on what was proposed by Walker and Brammer (2011). These areas include: (i) Familiarity with the Policy, which covers knowledge of Law 14133/2021, knowledge of IN 1/2010, the applicability of the Law and sustainable items; (ii) Incentives and Pressures of the Organization, which involves sustainable criteria, management, institutional mission, institutional image, training and sustainable procurement goals; (iii) Cost/Benefit of the Policy, which includes social, economic and environmental benefits; and, finally, (iv) Supplier Availability and Resistance, which refers to the preparation of suppliers, number of suppliers, product portfolio and supplier resistance.

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The scale was elaborated with five response options, and subpoints that assess the degree within the scales, ranging from 0 (zero) for the lowest level of intensity to 10 as the highest level.

In carrying out the *survey*, it is necessary to measure the breadth of data collection to be carried out with the servers of the IFES of Pará that work in the bidding and purchasing processes, in institutional planning; and budget allocation. For data collection, a census was considered, which is the collection of information from all elements of a given universe, which allows for the breadth and accuracy of the data. After collection, the Survey database was structured for the application of the Exploratory Factor Analysis technique.

Exploratory Factor Analysis (EFA) identifies patterns and structures in data sets that have many variables, allowing to reduce the complexity of the data set, identifying the most important variables to explain the variance of the data, proving to be an effective technique to analyze the data from the questionnaires of perception of civil servants about Sustainable Public Procurement.

EFA is a multivariate statistical method that evaluates the interrelationships (correlations) between a large volume of variables, condensing them into a set of latent dimensions, called factors, which help to understand the total set of data with a minimum loss of information, through the search and definition of the "fundamental constructs or dimensions assumed to be inherent to the original variables" (SANTANA, 2005, p.134). Through Exploratory Factor Analysis, it is possible to identify the isolated dimensions of the data structure, so that the degree to which each variable is explained by each dimension or factor can be determined (SANTANA, 2005; SANTANA *et al*., 2016).

The application of Exploratory Factor Analysis generates not only statistically significant results, but also substantive and theoretical implications (HAIR *et al*., 2009).

Exploratory Factor Analysis is widely used when there is no specific theory that determines the nature and quantity of factors underlying the data. It begins with the analysis of variance found in a matrix of variance and covariance.

Thus, the primary objectives of Exploratory Factor Analysis, according to Santana (2005, p.134) are: (i) to identify the structure of relationships between the variables, examining the correlations between them; and (ii) identify representative variables from a larger set of variables for use in subsequent multivariate analysis.

The identification of latent dimensions by means of a set of variables is a Factor Analysis of type R. It is noteworthy that the existence of Factor Analysis type Q is intended

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to condense large numbers of people into different groups of a larger population, which is not frequently used due to computational limitations (HAIR *et al*., 2009).

Considering the scope of the research and in view of the objective of analyzing the factors that influence the implementation of the sustainable procurement policy by the perception of public agents, R Factor Analysis is used to identify the latent dimensions.

In the Exploratory Factor Analysis model, it is assumed that each variable observed is a linear combination of the latent factors extracted, where each random variable *i* belongs to a homogeneous population with mean *μi*, being structured in equation 1 (SANTANA *et al*., 2016):

$$y_i - \mu_i = \Psi_y f_i + e_i \qquad (i = 1, 2, \ldots N) \ (1)$$

Where is the matrix of factor weights (p x 1), is the latent factor vector ($\Psi_y f_i p$ x *q*) and is the random error vector ($e_i p$ x 1). The independence between e , with $f_i e_i V()$ = and $f_i \sum_f V()$ = , is assumed, giving rise to the covariance matrix of , given by (SANTANA, 2007; SANTANA $e_i \sum_e y_i V(y_i) = \Psi_y \sum_f \Psi'_y + \sum_e$ *et al*., 2016). The first term on the right-hand side of the equation represents the covariance of the common factors and the second term the covariance attributed to the error. Thus, the portion of the common variance present in the variable, or commonality, is represented by the elements of the principal diagonal of , while the specific variance of the error is given by the elements of the principal diagonal of (SANTANA $V(y_i) = \Psi_y \sum_f \Psi'_y \sum_e$ *et al*., 2016).

The errors are uncorrelated to the latent factors, i.e., Cov() = E() = 0 = 0. Thus, the interrelationships between the $e_i f'_i e_i f'_i p$ variables are fully explained by *the q* latent factors. This means that the vectors e represent two distinct sources of variation and, therefore, without any relationship to each other. Thus, with , the model is reduced to (SANTANA $e_i f_i \sum_f = I_q V(y_i) = \Psi_y \sum_f \Psi'_y + \sum_e$ *et al*., 2016).

RESULTS AND DISCUSSION

Through the *survey* , data were collected on the perception of the IFES employees, in relation to the factors that influence the implementation of the sustainable procurement policy. As these data present correlations, it is proposed to apply the Exploratory Factor Analysis (EFA) to construct an indicator that represents the behavior of Sustainable Public Procurement in the IFES.

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In exploratory factor analysis, each factor is defined by a vector of significant factor loadings, associated with the capacity of each variable to explain the factor and of this to explain part of the total variance of the data. Therefore, it is possible to associate these dimensions with situations experienced by the arrangement of characteristics linked to each variable, according to their alignment with the latent dimensions as extracted by the factor analysis model (SANTANA, 2020; OLÍMPIO *et al*., 2022; SOUZA *et al.*, 2024).

Exploratory Factor Analysis is an essential technique in the analysis of large volumes of quantitative and qualitative data of variables, which would tend to cause statistical problems of multicollinearity and, thus, prevent the understanding of the influences on the phenomenon studied (SANTANA, 2020). EFA allows the synthesis of a set of data dispersed into a smaller subset of factors capable of explaining the phenomenon without significant loss of information (SANTANA, 2020).

The data were submitted to the Exploratory Factor Analysis adequacy test, initially by verifying the correlation matrix to see if there are significant correlations and if the determinant is different from zero, followed by the Kaiser-Meyer-Oklin (KMO) and Bartlett sphericity tests (SOUZA, 2024). The data are susceptible to submission to Factor Analysis, since the correlation matrix presented determinants different from zero, admitting an inverse matrix and solution that best represents the phenomenon studied.

Table 1 provides an overview of the selected variables, showing the indices of the Sample Adequacy Measure (MAA), with the KMO test at 0.787, higher than the minimum acceptable of 0.500, and the Bartlett sphericity test was significant at 0% probability. The sample size of 120 observations ensures 12 cases per variable, which is considered to be of excellent adequacy. The model also presented an acceptable degree of reliability, with Cronbach's alpha measure of 0.71, attesting to the consistency of the internal scale, or correlation between items.

All variables presented commonalities above 0.500, which validates the participation of the variables in the definition of the factors. The practical and statistical significance of the loads was met, since all of them reached 0.589 or more for the sample size of 120 observations. Thus, the lower load, associated with Factor 3, indicates that 34.7% of the total variance of the variable Suppliers' Preparation was explained by the factor.

Based on these practical and statistical results, the Factor Analysis model was well specified to generate results consistent with the phenomenon studied. Three latent variables or factors were identified and extracted, duly ordered by the degree of explanation

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of the total variance, defined after the orthogonal *rotation Varimax*. Thus, it is clear that the factors explained 65.812% of the total variance of the data.

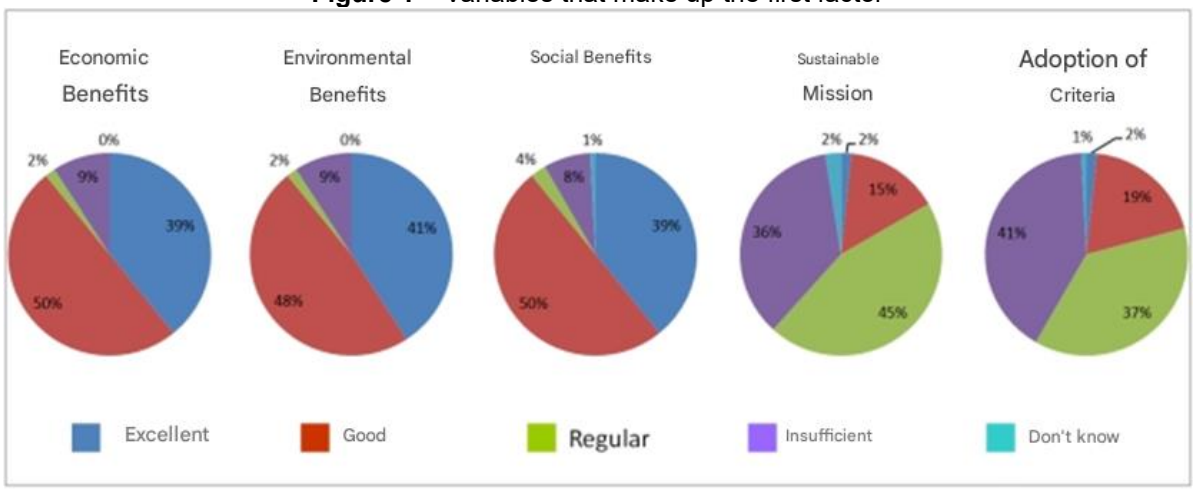
Table 1 – Matrix of loads associated with the extracted factors, commonality and sample adequacy statistics.

Variables	Factor 1	Factor 2	Factor 3	Communalities
Economic benefits	0,895	-0,072	-0,055	0,81
Environmental Benefits	0,870	-0,163	0	0,783
Social Benefits	0,823	-0,248	0,178	0,771
Institutional mission	0,685	0,368	0,127	0,621
Sustainable Criteria	0,604	0,451	0,057	0,571
Knowledge of Law 14133/2021	-0,14	0,787	0,004	0,638
Applicability of the Law	0,079	0,739	0,242	0,611
Training	0,159	-0,035	0,758	0,601
Number of Suppliers	0,063	0,157	0,728	0,558
Preparation of Suppliers	-0,215	0,473	0,589	0,617
Latent root	3,171	1,846	1,564	6,581
% Variance	31,71	18,458	15,643	65,812
Sample suitability for EFA and model reliability	KMO: 0.787			
	Bartlett test: 402.551 (p < 0.00) Cronbach's alpha statistic: 0.710			

Source: Survey data

The first factor explains 31.71% of the variance of the data, and is composed of the variables: Economic benefits; Environmental Benefits; Social Benefits; Institutional mission; and Sustainable Criteria, as shown in Figure 1. By the scores of the factor loadings, this factor can be named to represent the latent dimension **biosocioeconomic benefits of purchases**, which results from the perception of purchasing agents about the economic, environmental and social benefits that the public procurement policy provides, and how the adoption of sustainable criteria in procurement is related to the institutional mission.

Figure 1 – Variables that make up the first factor



Source: Survey data

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Figure 1 demonstrates that the respondents understand the economic, social, and environmental benefits in an integrated way, which characterizes an understanding of the environmental problem, aligned with elements provided by ecological economics in understanding the biosocioeconomic benefits nature generates for economic growth and social well-being from sustainable purchases (SANTANA, 2020, p.5), through different processes and areas of action, in a 'transversal and integrated way' (DELGADO *et al*., 2020), with a view to training professionals who have an environmental management perspective (PHILIPPI JÚNIOR *et al*., 2004).

About 90% of the interviewees understand the benefits of implementing sustainable criteria in purchases to be Good or Excellent. This result is consistent with IADS (2008) and Roos (2012), since through mandatory goals it is opportune to reduce environmental impacts and help in facing environmental challenges, promoting long-term financial savings by reducing externalities and fostering the market, promoting local development.

The institutionalization of the sustainable perspective in the actions, and especially in the mission of the IFES (BERCHIN, 2017), is noticeable by the civil servants through the incentives for the use of sustainability criteria in the bidding processes, in accordance with the 2030 Agenda, through goal 12, goal 12.7, which provides for the implementation of Sustainable Public Procurement, in accordance with national policies and priorities, as a way to promote sustainable development, in view of the immense economic impact and the influence of a sustainable perspective on institutions and society (SDSN, 2018).

The relevance of the institutionalization of environmental management in Universities provides them with the opportunity to be laboratories of excellence for experimentation through scientific knowledge and innovative technologies that contribute to the achievement of the Sustainable Development Goals, in addition to providing an institutional image of a university with socio-environmental responsibility.

The Federal Institutions of Higher Education in the State of Pará seek an institutional image associated with socio-environmental responsibility, so much so that it explicitly brings in its institutional missions the objective of promoting sustainable development. However, the perception of the civil servants regarding the relationship between sustainable procurement and the institutional mission is not satisfactorily perceived by 83.33% of the civil servants.

Adherence to sustainable criteria in the purchases of IFES in Pará becomes limited due to the portfolio of sustainable products available in the Materials Catalog, and this is

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perceived by 79.17% of the servers. The use of sustainable criteria in government procurement, as pointed out by Biderman *et al.* (2006), is relevant as equitable strategies in sustainable consumption initiatives that promote the improvement in the quality of life of human beings and the efficient use of natural resources, fostering social and local development, economic competitiveness and technological innovation.

Thus, it is observed that from the results represented in Figure 1, referring to the variables that make up the first factor, it demonstrates an optimistic perception on the part of the civil servants, regarding the economic, social and environmental benefits that sustainable purchases provide, but which they are unable to relate to the institutional mission, which formally brings the commitment to sustainable development. Another aspect is that sustainable criteria are not perceived in the bidding processes, this fact is due to the tiny percentage of sustainable goods in relation to the amount of goods acquired.

This fact has a direct implication on actions to increase awareness and alignment of civil servants with the principles and objectives of Sustainable Public Procurement. Although public agents are aware of the environmental, social, and economic benefits associated with these practices, a real disconnect was evidenced in the way these benefits are incorporated into the institution's mission and activities.

Thus, upper management should invest in ways to demonstrate the relevance of sustainable procurement for the fulfillment of the institutional mission and encourage the adoption of sustainable criteria in government procurement, as recommended by Brammer and Walker (2011), when dealing with the area of influence of "perceived cost/benefits of the policy".

The second factor explains 18.46% of the variance of the data, being composed of the variables: Knowledge of Law 14133/2021; and Applicability of the Law, as illustrated in Figure 2, express the importance of knowledge of the legislation relevant to government procurement and the use of sustainable criteria, thus, this factor can be called **knowledge of the legislation.**

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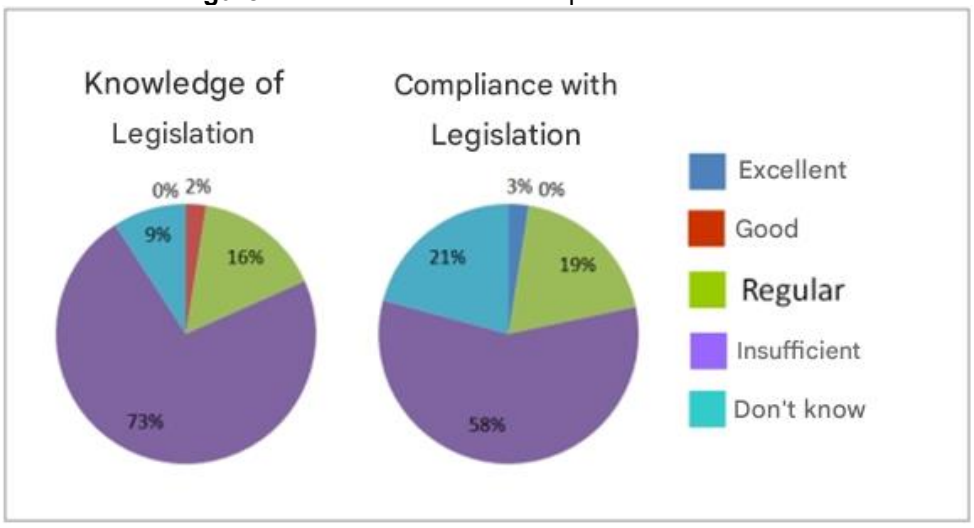
Figure 2 – Variables that make up the second factor



Source: Survey data

In relation to this second factor, 97.50% of the interviewees pointed out limitations in knowledge and compliance with the law, this result is in line with Fenz and Machado (2009), who point out that sustainability is a complex concept and that the civil servants who work in government procurement may not have the necessary knowledge to effectively implement sustainable criteria in procurement.

This second factor is related to the area of influence called "familiarity with policies" by Brammer and Walker (2011). The legal provision for the insertion of sustainable criteria in purchases is well supported by current legislation, although it does not have sufficient elements for applicability, however culture presents itself as another obstacle, since overcoming paradigms, awareness of managers and servers takes time. An important point was the imposition by the Federal Government through legislation, so that all agencies belonging to its structure adopted sustainable criteria in purchases, forcing an adaptation and change in behavior.

Despite this perception, there is a favorable institutional environment for the development of actions and strategies that contribute to the effectiveness in the use of sustainable criteria in procurement, and to a vision of environmental management in the institution, since the management is committed to promoting sustainable development, as stated in its institutional missions (BERCHIN, 2017).

The absence of adequate training of civil servants on sustainable procurement legislation results in a limited understanding of the legal requirements and procedures to be followed. This leads to errors and failures in the implementation of sustainable procurement

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policies, as well as making it difficult to make informed decisions and comply with established sustainability principles.

Sustainable procurement legislation is complex and encompasses a series of guidelines and criteria that must be considered when carrying out procurement processes. Without proper knowledge and training, civil servants face difficulties in correctly identifying and applying these guidelines during the procurement process.

In addition, the lack of adequate capacity building hinders communication and collaboration between the different sectors involved in sustainable public procurement. The fact that civil servants are not aware of the responsibilities and roles of each stakeholder leads to poor coordination and a lack of integration of efforts to achieve sustainability goals.

To overcome this obstacle, it is essential to invest in specific capacity building and training programs on sustainable procurement legislation. These programs should cover not only theoretical knowledge, but also the practical application of established principles and guidelines. Additionally, it is important to provide resources and reference materials that can help civil servants consult and understand legislation on an ongoing basis.

The training of civil servants must also be accompanied by an organizational culture that values and promotes the importance of sustainable public procurement. This can include creating internal communication channels, promoting the exchange of experiences and good practices, and recognizing the efforts and results achieved.

Thus, the variables contained in the second factor point to the need for senior management to provide means for civil servants to feel aware of the legislation, and also to offer tools that assist in effective compliance with the legislation, contributing to the advancement of the inclusion of environmental criteria in public procurement procedures.

The third factor explains 15.64% of the variance of the data, and is composed of the variables: Training of civil servants; Number of Suppliers; and Supplier Preparation, as shown in Figure 3, express the perception of the level of knowledge of strategies to implement sustainable criteria in procurement, and the relationship with suppliers who supply in this way, this factor can be called **governance of the procurement chain.**

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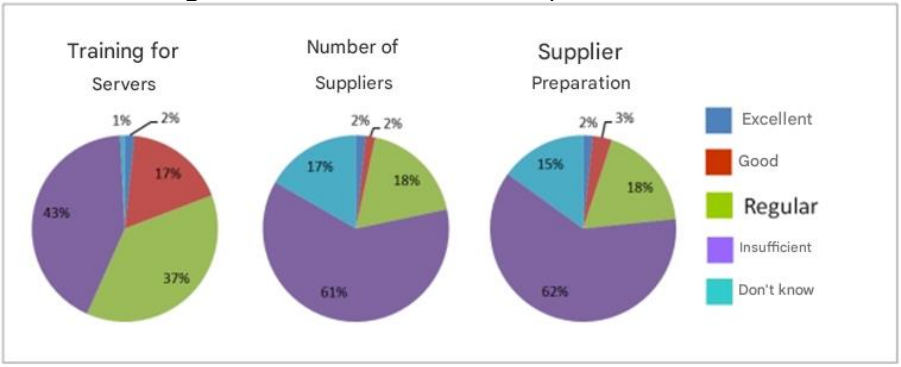
Figure 3 – Variables that make up the third factor



Source: Survey data

Regarding this third factor, 80.83% of the interviewees pointed out that training on the theme of sustainable procurement has not been enough to prepare them to act in procurement with sustainable criteria. Another aspect of this factor is the perception of the servers in the availability of suppliers and sustainable products in the suppliers' portfolio, which represent percentages at the mark of 95.83%. Thus, this third factor is related to the area of influence called "supplier availability/resistance" by Brammer and Walker (2011).

Bids with sustainable criteria stimulate cleaner production and consumption processes, reducing environmental externalities, contributing to a more sustainable cycle (BIDERMAN *et al.*, 2006). Companies that supply goods to public agencies still do not have a broad portfolio of sustainable goods, in line with Fonseca (2013) who points out that suppliers are not yet fully prepared to meet the demands of the public sector for sustainable goods, but are in the process of expansion and adaptation.

On this aspect, Gelderman *et al.* (2006), in a study on the perception of public buyers in the European Union, demonstrated that the supplier's willingness to act legally affects compliance with normative rules, and that the low level of knowledge of suppliers about the economic, social and environmental benefits - influence the effectiveness of the sustainable directive in government procurement.

From the perspective of Fonseca (2013), for the construction of a market based on the production of sustainable goods and services, it is essential to strengthen and expand the relations between the private and public sectors. The public sector is responsible for fostering the market through instruments and policies, as well as making purchases with its great financial power, encouraging technological innovations in products and services offered by the private sector, and it is essential that the government demonstrates its

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intention to acquire sustainable products, in order to arouse the interest of companies in meeting the government's demands.

Governance in the supply chain is a key factor for the success and effectiveness of sustainable public procurement practices. Procurement chain governance refers to the coordination, control, and direction of activities related to the procurement of sustainable goods and services. It covers aspects such as the selection and evaluation of suppliers, the definition of sustainability criteria, the establishment of contracts and agreements, as well as the monitoring and assurance of compliance with established sustainable requirements.

One of the main challenges identified in this factor is the number and preparation of suppliers who offer sustainable products and services. Often, the supply of certified and specialized suppliers in this type of product is limited, which can make it difficult to implement sustainable public procurement. The lack of a solid base of suppliers prepared to meet sustainable requirements can compromise the viability and effectiveness of sustainable procurement practices.

In this sense, it is crucial to promote strategies that encourage and expand the participation of qualified suppliers in the sustainable procurement market. This may involve conducting training and awareness programs for suppliers, aiming to increase their knowledge of sustainable requirements and assist them in adapting their business practices.

Additionally, it is important to establish ongoing monitoring and evaluation mechanisms to ensure that suppliers comply with the established sustainability criteria. These mechanisms may include periodically reviewing supplier performance, reviewing sustainable certifications and seals, and adopting auditing practices to verify compliance with requirements.

Another relevant aspect of procurement chain governance is the need for clear and transparent communication between buyers and suppliers. This includes sharing information on sustainability expectations and criteria, exchanging knowledge and experiences, and building partnership relationships that can drive innovation and the advancement of sustainable practices.

Thus, the variables contained in the third factor point to the need to enable training for civil servants on the theme of sustainable procurement, especially in knowledge for the promotion of the supply of goods with sustainable criteria, resulting from a relationship between the public and private sectors, with regard to the availability of these products.

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The Exploratory Factor Analysis, with the theoretical contributions of environmental precepts and economics, proved to be ideal in the construction of the Indicator, which instrumentalizes the capture of the perception of the civil servants in relation to the theoretical, legal and operational bases of government purchases with sustainability criteria, emphasizing how the civil servants understand their relationship with their institution and the socio-environmental responsibility.

The perception of the civil servants who work in the government procurement procedures of the IFES is essential to ensure the success of sustainable procurement in the organization. Civil servants are primarily responsible for decision-making. If they are not aware of the importance of sustainability, they may not take into account environmental and social factors when choosing suppliers and products. By ensuring that employees have a clear understanding of the importance of sustainability, the company can encourage the adoption of sustainable practices in its purchasing operations.

CONCLUSIONS

The results of the survey identified three latent factors that explained 65.812% of the total variance of the data: biosocioeconomic benefits of purchases (31.71%), knowledge of legislation (18.46%) and governance of the procurement chain (15.64%). The analysis revealed an optimistic perception of the benefits of sustainable procurement, with around 90% considering the economic, social and environmental benefits to be "Good" or "Excellent". However, the study pointed out significant barriers to the implementation of these practices.

Among the main limitations, the low representativeness of sustainable goods in purchases stands out, with only a small fraction meeting the criteria, and the lack of sustainable products in the portfolio, mentioned by 79.17% of the employees. In addition, 80.83% of respondents considered the training insufficient to implement sustainable practices efficiently. As for suppliers, 95.83% indicated difficulties regarding the quantity and preparation to meet sustainable criteria, compromising the viability of the policy.

In addition, a disconnection was also observed between procurement practices and the institutional missions of the IFES, with 83.33% of the employees perceiving dissatisfaction regarding the relationship between sustainable procurement and the institutional mission. These results highlight the need for an integrated approach, including

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training of civil servants, incentives for diversification of the portfolio of sustainable products, and alignment of purchases with the goals of the 2030 Agenda.

By fostering technological innovation and strengthening the relationship between the public sector and suppliers, IFES have the potential to not only increase the efficiency of procurement, but also act as agents of social transformation, promoting sustainability on a local and regional scale. The research demonstrates that sustainable procurement is not just an institutional commitment, but a strategic opportunity to maximize economic, social, and environmental benefits while creating a positive impact on the sustainable development of the Amazon.

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